IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

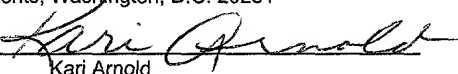|			
Applicant:	Kiiski et al.	Examiner:	UNKNOWN
Serial No.:	TO BE ASSIGNED	Group Art Unit:	TO BE ASSIGNED
Filed:	June 25, 2001	Docket No.:	975.344USW1
Title:	PACKET TRANSMISSION METHOD AND APPARATUS		

CERTIFICATE UNDER 37 C.F.R. 1.10:
'Express Mail' mailing number: _____EL733009871US_____
Date of Deposit: _____June 25, 2001_____
The undersigned hereby certifies that this Transmittal Letter and the paper or fee, as described herein, are being deposited with the United States Postal Service 'Express Mail Post Office To Addressee' service under 37 CFR 1.10 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

By: _____
Kari Arnold

PRELIMINARY AMENDMENT

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Please enter the following preliminary amendment into the above-referenced

application.

ABSTRACT

Please insert the attached abstract into the application as the last page thereof.

CLAIMS

Please amend claims 3,5,7,8,9,10,12,13,14,17,18,19,20,21,22,23,25,26,27,28

and 31 as follows. A clean copy of the entire set of claims is included below. A

marked up copy of the amended claims is included in Appendix A.

1.   A packet transmission method for transmitting data packets via a

telecommunication network, comprising the steps of:

a) judging the quality of a received data packet;

b) tagging said data packet by adding a dropping information in response to the result of said judging step; and

c) dropping said tagged data packet based on said added dropping information, when a predetermined dropping condition is met.

2.　　　　A method according to claim 1, wherein said dropping information is a drop flag provided in a header portion of said data packet.

3.　　　　(AMENDED) A method according to claim 1, wherein said quality judgment is performed on the basis of an error check of said data packet.

4.　　　　A method according to claim 3, wherein said error check is performed based on a cyclic redundancy code included in said received data packet.

5.　　　　(AMENDED) A method according to claim 1, wherein said quality judgment is performed on the basis of a comparison of a quality likelihood parameter with a predetermined threshold.

6.　　　　A method according to claim 5, wherein said predetermined threshold is periodically updated for each transmission link of said telecommunication network.

7.　　　　(AMENDED) A method according to claim 1, wherein said dropping step is executed at a network element where traffic policing and/or congestion control is implemented.

8.　　　　(AMENDED) A method according to claim 1, wherein said predetermined dropping condition is a congestion of a transmission link.

9.　　　　(AMENDED) A method according to claim 1, wherein said predetermined dropping condition is an overuse of a contract of a particular connection.

10.　　　　(AMENDED) A method according to claim 1, wherein said packet transmission method is an ATM transmission method, and wherein said data packet is an ATM cell.

11.　　　　A method according to claim 10, wherein defective data frames are packed into the same ATM cell, wherein those ATM cells which contain only defective frames are tagged in said tagging step.

12.　　　　(AMENDED) A method according to claim 10, wherein said telecommunication network is a mobile communication network, and wherein said transmission method is used for transmitting ATM cells between a base station and a radio network controller.

13.   (AMENDED) A method according to claim 1, wherein said data packet comprises a macro diversity combining bit stream.

14.   (AMENDED) A method according to claim 1, wherein said telecommunication network is a mobile communication network, said data packet is a downlink data packet, and said quality is judged on the basis of an uplink quality parameter and/or a downlink power control status.

15.   A method according to claim 14, wherein said downlink power control status is determined on the basis of a downlink power level commanded by a mobile station to which said data packet is to be transmitted.

16.   A method according to claim 15, wherein said transmission link is a macro diversity branch.

17.   (AMENDED) A transmission apparatus for transmitting data packets via a telecommunication network, comprising:

a) judging means for judging the quality of a received data packet; and

b) tagging means for adding a dropping information to said data packet in response to a judging result of said judging means.

18.   (AMENDED) An apparatus according to claim 17, wherein said packet transmission apparatus comprises a dropping means for detecting said dropping

information and for dropping said data packet based on said detected dropping

information, when a predetermined dropping condition is met.

19.   (AMENDED) An apparatus according to claim 17, wherein said tagging

means is arranged to set a drop flag provided in a header portion of said data packet.

20.   (AMENDED) An apparatus according to claim 17, wherein said packet

transmission apparatus is arranged to perform an uplink transmission, and wherein

said judging means is arranged to judge the quality of said received data packet based

on an error check of said received data packet.

21.   (AMENDED) An apparatus according to claim 20, wherein said judging

means is arranged to perform said error check based on a cyclic redundancy code

included in said received data packet.

22.   (AMENDED) An apparatus according to claim 17, wherein said judging

means is arranged to judge the quality on the basis of a comparison of quality

likelihood parameter with a stored predetermined threshold.

23.   (AMENDED) An apparatus according to claim 22, wherein said stored

predetermined threshold is periodically received and updated by said judging means.

24.	An apparatus according to claim 18, wherein said dropping means is a means implemented for traffic policing and/or congestion control.

25.	(AMENDED) An apparatus according to claim 18, wherein said dropping means comprises a drop control means for determining a congestion of a transmission link or an overuse of a contract of a transmission link, as said predetermined dropping condition, and for releasing a dropping operation, when the predetermined dropping condition has been determined.

26.	(AMENDED) An apparatus according to claim 17, wherein said telecommunication network is a mobile network and said packet transmission apparatus is a base station of said mobile network, and wherein said data packet is an ATM cell.

27.	(AMENDED) An apparatus according to claim 17, wherein said packet transmission apparatus is arranged to perform a downlink transmission, and wherein said judging means is arranged to judge the quality of said received data packet based on an uplink quality parameter and/or a downlink power control status.

28.	(AMENDED) An apparatus according to claim 27, wherein said telecommunication network is a mobile network and said packet transmission apparatus is a radio network controller of said mobile network.

6

29.   A network element for a telecommunication network, comprising

dropping means for detecting a dropping information included in a received data

packet, and for dropping said data packet based on said detected dropping

information, when the predetermined dropping condition is met.

30.   A network element according to claim 29, wherein said dropping means

comprises a drop control means for determining a congestion of a transmission link

and/or an overuse of a contract of said transmission link, as said dropping condition,

and for releasing a dropping operation, when the dropping condition has been

determined.

31.   (AMENDED) An apparatus according to claim 29, wherein said network

element is an ATM node or an ATM gateway, and wherein said received data packet

is an ATM cell.

REMARKS

The above preliminary amendment is made to insert an abstract page into the application and to amend claims 3,5,7,8,9,10,12,13,14,17,18,19,20,21,22,23,25,26,27,28 and 31.

Applicant respectfully requests that this preliminary amendment be entered into the record prior to calculation of the filing fee and prior to examination and consideration of the above-identified application.
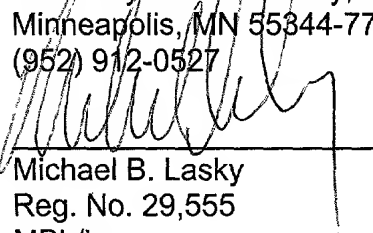
If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Michael B. Lasky at 952-912-0527.

Respectfully submitted,

Altera Law Group, LLC
6500 City West Parkway, Suite 100
Minneapolis, MN 55344-7701
(952) 912-0527

Date: <u>June 25, 2001</u>   By:

Michael B. Lasky
Reg. No. 29,555
MBL/jsa

8

Appendix A
Marked Up Version of the Amended Claims

3.   (AMENDED) A method according to claim 1 [or 2], wherein said quality

judgment is performed on the basis of an error check of said data packet.

5.   (AMENDED) A method according to [any one of the preceding]

claim[s] 1, wherein said quality judgment is performed on the basis of a comparison of

a quality likelihood parameter with a predetermined threshold.

7.   (AMENDED) A method according to [any one of the preceding]

claim[s] 1, wherein said dropping step is executed at a network element where traffic

policing and/or congestion control is implemented.

8.   (AMENDED) A method according to [any one of the preceding]

claim[s] 1, wherein said predetermined dropping condition is a congestion of a

transmission link.

9.   (AMENDED) A method according to [any one of the preceding]

claim[s] 1, wherein said predetermined dropping condition is an overuse of a contract

of a particular connection.

10.   (AMENDED) A method according to [any one of the preceding]

claim[s] 1, wherein said packet transmission method is an ATM transmission method,

and wherein said data packet is an ATM cell.

12.   (AMENDED) A method according to claim 10 [or 11], wherein said telecommunication network is a mobile communication network, and wherein said transmission method is used for transmitting ATM cells between a base station and a radio network controller.

13.   (AMENDED) A method according to [any one of the preceding] claim[s] 1, wherein said data packet comprises a macro diversity combining bit stream.

14.   (AMENDED) A method according to claim 1 [or 2], wherein said telecommunication network is a mobile communication network, said data packet is a downlink data packet, and said quality is judged on the basis of an uplink quality parameter and/or a downlink power control status.

17.   (AMENDED) A transmission apparatus for transmitting data packets via a telecommunication network, comprising:

a) judging means [(12, 23)] for judging the quality of a received data packet; and

b) tagging means [(13, 22)] for adding a dropping information to said data packet in response to a judging result of said judging means [(12, 23)].

18.   (AMENDED) An apparatus according to claim 17, wherein said packet transmission apparatus comprises a dropping means [(14, 15, 21, 24)] for detecting

said dropping information and for dropping said data packet based on said detected

dropping information, when a predetermined dropping condition is met.

19.   (AMENDED) An apparatus according to claim 17 [or 18], wherein said

tagging means [(13, 22)] is arranged to set a drop flag provided in a header portion of

said data packet.

20.   (AMENDED) An apparatus according to [any one of] claim[s] 17 [to 19],

wherein said packet transmission apparatus is arranged to perform an uplink

transmission, and wherein said judging means [(12, 23)] is arranged to judge the

quality of said received data packet based on an error check of said received data

packet.

21.   (AMENDED) An apparatus according to claim 20, wherein said judging

means [(12, 23)] is arranged to perform said error check based on a cyclic redundancy

code included in said received data packet.

22.   (AMENDED) An apparatus according to [any one of] claim[s] 17 [to 21],

wherein said judging means [(12)] is arranged to judge the quality on the basis of a

comparison of quality likelihood parameter with a stored predetermined threshold.

23.   (AMENDED) An apparatus according to claim 22, wherein said stored predetermined threshold is periodically received and updated by said judging means [(12)].

25.   (AMENDED) An apparatus according to claim[s] 18 [or 24], wherein said dropping means [(14, 15, 21, 24)] comprises a drop control means [(15, 24)] for determining a congestion of a transmission link or an overuse of a contract of a transmission link, as said predetermined dropping condition, and for releasing a dropping operation, when the predetermined dropping condition has been determined.

26.   (AMENDED) An apparatus according to [any one of] claim[s] 17 [to 25], wherein said telecommunication network is a mobile network and said packet transmission apparatus is a base station [(BS1, BS2, BS3)] of said mobile network, and wherein said data packet is an ATM cell.

27.   (AMENDED) An apparatus according to [any one of] claim[s] 17 [to 19], wherein said packet transmission apparatus is arranged to perform a downlink transmission, and wherein said judging means [(23)] is arranged to judge the quality of said received data packet based on an uplink quality parameter and/or a downlink power control status.

28.   (AMENDED) An apparatus according to claim 27, wherein said telecommunication network is a mobile network and said packet transmission apparatus is a radio network controller [(RNC)] of said mobile network.

31.   (AMENDED) An apparatus according to claim 29 [or 30], wherein said network element is an ATM node or an ATM gateway, and wherein said received data packet is an ATM cell.

ABSTRACT
For
PACKET TRANSMISSION METHOD AND APPARATUS

A packet transmission method and apparatus for transmitting data packets via a telecommunication network are described, wherein the quality of a received data packet is judged and the data packet is tagged in response to the result of the quality judgment. The tagging is performed by adding a dropping information, wherein a tagged cell is dropped on the basis of the dropping information and a predetermined dropping condition such as a transmission congestion situation and/or an overuse of a contract of a particular connection. In the uplink direction, the quality judgment can be based on an error check or a comparison of a quality base likelihood parameter with a threshold value. In the downlink direction, the quality judgment can be performed on the basis of an uplink quality parameter and/or a downlink power control status. Accordingly, in case of a congestion and/or an overuse of a particular connection, low quality transmission packets are dropped first to thereby reduce traffic.